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CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002

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NEWS WWW

SINCE FILE TOTAL ENTRY SESSION 0.21 0.21

FULL ESTIMATED COST

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STRUCTURE FILE UPDATES: 12 MAR 2003 HIGHEST RN 498527-50-7 DICTIONARY FILE UPDATES: 12 MAR 2003 HIGHEST RN 498527-50-7

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details: http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> Uploading 10091500 aspartame derivative.str

L1 STRUCTURE UPLOADED

L1 HAS NO ANSWERS L1 STR

Structure attributes must be viewed using STN Express query preparation.

=> search l1 exact full FULL SEARCH INITIATED 07:13:33 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 13 TO ITERATE

100.0% PROCESSED 13 ITERATIONS 1 ANSWERS

SEARCH TIME: 00.00.01

L2 1 SEA EXA FUL L1

=> d scan

L2 1 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine, N-[3-(4-hydroxy-3-methoxyphenyl)propyl]-L-.alpha.aspartyl-, 2-methyl ester (9CI)

MF C24 H30 N2 O7

MeO (CH<sub>2</sub>)<sub>3</sub> N S Ph 
$$CO_2H$$
 .

#### ALL ANSWERS HAVE BEEN SCANNED

=> d 12

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

RN 329326-75-2 REGISTRY

CN L-Phenylalanine, N-[3-(4-hydroxy-3-methoxyphenyl)propyl]-L-.alpha.-aspartyl-, 2-methyl ester (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Ararame

FS STEREOSEARCH

MF C24 H30 N2 O7

SR CA

LC STN Files: CA, CAPLUS, CASREACT, USPATFULL

Absolute stereochemistry.

MeO (CH<sub>2</sub>)<sub>3</sub> N S Ph 
$$CO_2H$$

### \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

3 REFERENCES IN FILE CA (1962 TO DATE)

3 REFERENCES IN FILE CAPLUS (1962 TO DATE)

=> file caplus
COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION 51.83 52.04

FULL ESTIMATED COST

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FILE COVERS 1907 - 14 Mar 2003 VOL 138 ISS 12 FILE LAST UPDATED: 13 Mar 2003 (20030313/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> 12
L3
             3 L2
=> d 13 1-3 ti fbib abs
L3
     ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS
     Gustatory responses of pigs to sixty compounds tasting sweet to humans
TI
AN
     2002:351144 CAPLUS
DN
     137:336847
     Gustatory responses of pigs to sixty compounds tasting sweet to humans
ΤI
     Nofre, C.; Glaser, D.; Tinti, J.-M.; Wanner, M.
AU
     Faculty of Medicine of Lyon Laennec, University of Lyon, Lyon, Fr.
CS
     Journal of Animal Physiology and Animal Nutrition (2002), 86(3-4), 90-96
SO
     CODEN: JAPNEF; ISSN: 0931-2439
PB
     Blackwell Wissenschafts-Verlag GmbH
DT
     Journal
     English
LA
     The gustatory responses of pigs to 60 compds. perceived as sweet by
AB
humans
     were studied via a semi-quant. behavioral method derived from the Richter
     two-bottle preference test. Among the 60 compds. tested 35 are effective
     in pigs, but with an effectiveness much lower in pigs than in humans.
     Lugduname and carrelame, which are the two most potent sweeteners in
     humans, are also the most effective compds. in pigs.
              THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 31
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
     ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS
L3
     Process for producing aspartyl dipeptide ester derivatives
TТ
AN
     2001:833348 CAPLUS
     135:358168
DN
     Process for producing aspartyl dipeptide ester derivatives
TI
     Kawahara, Shigeru; Nagashima, Kazutaka; Takemoto, Tadashi
IN.
     Ajinomoto Co., Inc., Japan
PA
     PCT Int. Appl., 25 pp.
SO
     CODEN: PIXXD2
DT
     Patent
     Japanese
LA
FAN.CNT 1
     PATENT NO.
                     KIND DATE
                                          APPLICATION NO. DATE
                     ----
     WO 2001085761
                                          WO 2001-JP3479 20010423
                     A1 20011115
PΤ
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
            CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
            HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
            LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO,
```

RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,

VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

```
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                           JP 2000-137028 A 20000510
                                                          20010423
     EP 1283213
                           20030212
                                           EP 2001-922023
                      A1
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                                           JP 2000-137028 A 20000510
                                           WO 2001-JP3479 W 20010423
     CASREACT 135:358168; MARPAT 135:358168
os
     This document discloses a process for conveniently producing on an
     industrial scale in high yield
N-[N-[3-(phenyl)propyl]-L-.alpha.-aspartyl]-
     L-phenylalanine 1-Me ester derivs., which are expected to be sweeteners,
     by reductively alkylating aspartame with 3-phenyl-2-propenyl aldehyde
     derivs. under hydrogen in the presence of a catalyst and a base.
              THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 9
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
L3
    ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS
     Process for producing and purifying aspartame derivative as sweetener
TI
AN
     2001:185780 CAPLUS
     134:223039
DN
     Process for producing and purifying aspartame derivative as sweetener
TΙ
    Amino, Yusuke; Yuzawa, Kazuko; Takemoto, Tadashi
IN
PA
    Ajinomoto Co., Inc., Japan
    PCT Int. Appl., 39 pp.
SO
    CODEN: PIXXD2
DT
    Patent
    Japanese
LA
FAN.CNT 1
                                         APPLICATION NO. DATE
    PATENT NO.
                     KIND DATE
                                           -----
                     ---- -----
    WO 2001018034
                                          WO 2000-JP5665 20000823
                     A1 20010315
PΙ
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
            CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
            HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
            LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
            YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
            DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
            CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                          JP 1999-253498 A 19990907
    AU 2000067273
                      Α5
                            20010410
                                          AU 2000-67273
                                                           20000823
                                           JP 1999-253498 A 19990907
                                          WO 2000-JP5665 W 20000823
    US 2002147361
                      Α1
                           20021010
                                          US 2002-91500
                                                            20020307
                                           JP 1999-253498 A 19990907
                                          WO 2000-JP5665 A120000823
    CASREACT 134:223039
OS
    This document discloses the following : a method for industrially
AB
     producing
N-[N-[3-(3-methoxy-4-hydroxyphenyl)propyl]-L-.alpha.-aspartyl]-L-
    phenylalanine 1-Me ester which is useful as a sweetener, in particular, a
    process for producing the target compd. in a high yield by the reductive
    alkylation reaction of aspartame with 3-(3-methoxy-4-
    hydroxyphenyl)propionaldehyde or its deriv.; a method of effectively
    purifying the target compd. contaminated with impurities invading
    thereinto at various prodn. stages (involving methods other than the
    above-described reductive alkylation), more particularly, a method of
    sepg. the target compd. in the form of highly pure crystals; the
crystals;
```

sweeteners contg. the same; and utilization thereof in various products which are to be sweetened.

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file req SINCE FILE TOTAL COST IN U.S. DOLLARS ENTRY SESSION 8.91 60.95 FULL ESTIMATED COST SINCE FILE TOTAL DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) ENTRY SESSION CA SUBSCRIBER PRICE -1.95 -1.95

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STRUCTURE FILE UPDATES: 12 MAR 2003 HIGHEST RN 498527-50-7 DICTIONARY FILE UPDATES: 12 MAR 2003 HIGHEST RN 498527-50-7

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details: http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

Uploading 10091500 aspartame derivative sss.str

L4 STRUCTURE UPLOADED

=> d 14

L4 HAS NO ANSWERS

L4 STR

Structure attributes must be viewed using STN Express query preparation.

=> search 14 sss full.
FULL SEARCH INITIATED 07:17:08 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 196 TO ITERATE

100.0% PROCESSED 196 ITERATIONS

20 ANSWERS

SEARCH TIME: 00.00.01

L5 20 SEA SSS FUL L4

=> d scan

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Tyrosine, N-[3-(3-hydroxy-4-methoxyphenyl)propyl]-L-.alpha.-aspartyl-,
2-methyl ester (9CI)

MF C24 H30 N2 O8

Absolute stereochemistry.

MeO OH 
$$(CH_2)_3$$
  $H_S$   $HO_2C$  OMe OH

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

### HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):20

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine, N-[3-(4-hydroxy-3-methoxyphenyl)propyl]-L-.alpha.-

aspartyl-.alpha.-methyl-, 2-methyl ester (9CI)

MF C25 H32 N2 O7

Absolute stereochemistry.

MeO (CH<sub>2</sub>) 3 N S Ph 
$$CO_2H$$

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine, N-[3-(3-hydroxy-4-methoxyphenyl)propyl]-L-.alpha.-aspartyl-.alpha.-methyl-, 2-methyl ester (9CI)

MF C25 H32 N2 O7

Absolute stereochemistry.

HO (CH<sub>2</sub>) 3 Me OMe Me 
$$CO_2H$$

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine,

N-[3-(4-hydroxy-3-methoxyphenyl)butyl]-L-.alpha.-aspartyl-

2-methyl ester (9CI)

MF C25 H32 N2 O7

Absolute stereochemistry.

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine,

N-[3-(3-hydroxy-4-methoxyphenyl)butyl]-L-.alpha.-aspartyl-

, 2-methyl ester (9CI)

MF C25 H32 N2 O7

Absolute stereochemistry.

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Tyrosine, N-[3-(4-hydroxy-3-methoxyphenyl)butyl]-L-.alpha.-aspartyl-,
2-methyl ester (9CI)

MF C25 H32 N2 O8

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Phenylalanine,
N-[3-(4-hydroxy-3-methoxyphenyl)-3-methylbutyl]-L-.alpha.aspartyl-, 2-methyl ester (9CI)
MF C26 H34 N2 O7

Absolute stereochemistry.

### \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Phenylalanine,
N-[3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl]-L-.alpha.aspartyl-, 2-methyl ester (9CI)
MF C26 H34 N2 O7

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine, N-[3-(3-hydroxy-4-methoxyphenyl)-2-methylpropyl]-L.alpha.-aspartyl-, 2-methyl ester (9CI)

MF C25 H32 N2 O7

Absolute stereochemistry.

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine,

N-[3-ethyl-3-(4-hydroxy-3-methoxyphenyl)pentyl]-L-.alpha.-

aspartyl-, 2-methyl ester (9CI)

MF C28 H38 N2 O7

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Phenylalanine,
N-[3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl]-L-.alpha.aspartyl-, 2-ethyl ester (9CI)
MF C27 H36 N2 O7

Absolute stereochemistry.

#### \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Phenylalanine,
N-[3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl]-L-.alpha.aspartyl-.alpha.-methyl-, 2-methyl ester (9CI)
MF C27 H36 N2 O7

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine, N-[3-(3,4-dihydroxyphenyl)-3-methylbutyl]-L-.alpha.-

aspartyl-, 2-methyl ester (9CI)

MF C25 H32 N2 O7

Absolute stereochemistry.

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine, N-[3-(4-hydroxy-3-methoxyphenyl)propyl]-L-.alpha.aspartyl-, 2-methyl ester (9CI)

MF C24 H30 N2 O7

MeO (CH<sub>2</sub>)<sub>3</sub> N S Ph 
$$CO_2H$$

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine, N-[3-(3,4-dihydroxyphenyl)propyl]-L-.alpha.-aspartyl-,
2-methyl ester (9CI)

MF C23 H28 N2 O7

Absolute stereochemistry.

HO (CH<sub>2</sub>) 3 N S ph 
$$CO_2H$$

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine,

N-[3-(2,3,4-trihydroxyphenyl)propyl]-L-.alpha.-aspartyl-, 2-methyl ester (9CI)

MF C23 H28 N2 O8

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS
IN L-Phenylalanine,
N-[3-(3,4,5-trihydroxyphenyl)propyl]-L-.alpha.-aspartyl-,
2-methyl ester (9CI)
MF C23 H28 N2 O8

Absolute stereochemistry.

HO 
$$(CH_2)_3$$
  $N$   $S$   $Ph$   $CO_2H$ 

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine, N-[3-(3-hydroxy-4-methoxyphenyl)-3-methyl-1-oxobutyl]-L-.alpha.-aspartyl-, 2-methyl ester (9CI)

MF C26 H32 N2 O8

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine, N-[3-(3-hydroxy-4-methoxyphenyl)propyl]-L-.alpha.-

aspartyl-, 2-methyl ester (9CI)

MF C24 H30 N2 O7

Absolute stereochemistry.

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & &$$

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L5 20 ANSWERS REGISTRY COPYRIGHT 2003 ACS

IN L-Phenylalanine, N-[3-(3,4-dimethoxyphenyl)propyl]-L-.alpha.-aspartyl-,
2-methyl ester (9CI)

MF C25 H32 N2 O7

MeO 
$$(CH_2)_3$$
  $N$   $S$   $Ph$   $CO_2H$ 

#### ALL ANSWERS HAVE BEEN SCANNED

=> file caplus COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION FULL ESTIMATED COST 148.55 209.50 SINCE FILE DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) TOTAL ENTRY SESSION CA SUBSCRIBER PRICE 0.00 -1.95

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FILE COVERS 1907 - 14 Mar 2003 VOL 138 ISS 12 FILE LAST UPDATED: 13 Mar 2003 (20030313/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> 15

L6 14 L5

=> d his

(FILE 'HOME' ENTERED AT 07:12:53 ON 14 MAR 2003)

FILE 'REGISTRY' ENTERED AT 07:13:02 ON 14 MAR 2003

STRUCTURE UPLOADED L11 SEARCH L1 EXACT FULL L2FILE 'CAPLUS' ENTERED AT 07:13:55 ON 14 MAR 2003 L3 3 L2 FILE 'REGISTRY' ENTERED AT 07:16:35 ON 14 MAR 2003 STRUCTURE UPLOADED L420 SEARCH L4 SSS FULL L5 FILE 'CAPLUS' ENTERED AT 07:17:35 ON 14 MAR 2003 L6 14 L5 => 16 not 13 11 L6 NOT L3 => d l7 1-11 ti ANSWER 1 OF 11 CAPLUS COPYRIGHT 2003 ACS L7 Process for producing cinnamyl aldehyde derivatives and use thereof as TI intermediate for aspartame derivative ANSWER 2 OF 11 CAPLUS COPYRIGHT 2003 ACS L7Aspartame derivative crystals TI ANSWER 3 OF 11 CAPLUS COPYRIGHT 2003 ACS L7 Preparation of 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyric acid ΤI derivative as novel intermediate for sweetener with high sweetness and process for producing the same ANSWER 4 OF 11 CAPLUS COPYRIGHT 2003 ACS L7 Process for producing N-(3-methyl-3-phenylbutyl)aspartame derivative, TΙ crystals thereof, novel production of aldehyde intermediates therefor and process for producing the intermediate ANSWER 5 OF 11 CAPLUS COPYRIGHT 2003 ACS L7 Sweetener compositions with high degree of sweetness having improved TIsweetness, supplements and utilization thereof ANSWER 6 OF 11 CAPLUS COPYRIGHT 2003 ACS L7Sweetener compositions with high degree of sweetness having improved ΤI sweetness, supplements and utilization thereof ANSWER 7 OF 11 CAPLUS COPYRIGHT 2003 ACS L7 Process for the production of aspartyldipeptide ester derivatives, novel intermediates therefor and process for the production of the intermediates ANSWER 8 OF 11 CAPLUS COPYRIGHT 2003 ACS L7TI Preparation of aspartyl dipeptides and their use as sweeteners ANSWER 9 OF 11 CAPLUS COPYRIGHT 2003 ACS L7 ΤI N-Alkylaspartyldipeptide ester derivatives and sweeteners ANSWER 10 OF 11 CAPLUS COPYRIGHT 2003 ACS L7 ΤI Novel aspartyl dipeptide ester derivatives as sweeteners ANSWER 11 OF 11 CAPLUS COPYRIGHT 2003 ACS L7 Preparation of aspartyl dipeptide ester derivatives as sweeteners TΙ

#### => d 17 1-11 ti fbib abs ANSWER 1 OF 11 CAPLUS COPYRIGHT 2003 ACS L7 Process for producing cinnamyl aldehyde derivatives and use thereof as TI intermediate for aspartame derivative AN 2001:851092 CAPLUS DN 135:371997 Process for producing cinnamyl aldehyde derivatives and use thereof as ΤI intermediate for aspartame derivative Mori, Kenichi; Fujita, Shinji; Funakoshi, Nao; Takemoto, Tadashi IN PA Ajinomoto Co., Inc., Japan SO PCT Int. Appl., 29 pp. CODEN: PIXXD2 DT Patent LA Japanese FAN.CNT 1 APPLICATION NO. DATE PATENT NO. KIND DATE ----\_\_\_\_\_ \_\_\_\_\_ WO 2001-JP3545 20010424 WO 2001087813 **A1** 20011122 ΡI AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG JP 2000-142811 A 20000516 20010424 A1 20030212 EP 2001-922073 AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR JP 2000-142811 A 20000516 WO 2001-JP3545 W 20010424

OS CASREACT 135:371997; MARPAT 135:371997 GI

AB

Described is an industrial process for conveniently and efficiently

producing highly pure cinnamyl aldehyde derivs. (I; R = H, C1-4 alkyl or alkoxy) such as (2E)-(3-hydroxy-4-methoxy)cinnamyl aldehyde which comprises reacting a benzaldehyde deriv. (II; R = same as above) (for example, isovanillin) with acetaldehyde in the presence of an alkali, preferably adding acetaldehyde in portions in an aq. soln. at a low temp. The cinnamyl aldehyde derivs. (I) thus obtained are selectively reduced into 3-(3-hydroxy-4-substituted phenyl)propionaldehydes (III; R = same as above). These compds. III are further subjected to reductive alkylation with aspartame to efficiently give N-[N-[3-(3-hydroxy-4-substituted phenyl)propyl]-L-.alpha.-aspartyl]-L-phenylalanine 1-Me esters (IV; R =

H, C1-4 alkyl or alkoxy), which are useful as sweeteners with high sweetness.

Thus, 121.72 g isovanillin and 320 g NaOH were dissolved in 2,000 mL H2O and cooled to -10.degree., followed by continuously adding 290 g 28 wt.% aq. acetaldehyde over a period of 45 h, and the resulting mixt. was stirred for 1 h, treated with 768.1 g 36 wt.% aq. HCl, and filtered to give 324 g cryst. product. The latter product was dispersed in 500 mL

at 25.degree., treated with 97.5 g 25 wt.% aq. NaOH for dissoln., stirred with 4 g activated charcoal and 16 g celite, and filtered. The filtrate was neutralized with 55.4 g 36 wt.% aq. HCl to give 185.5 g cryst. product

which was vacuum-dried, dispersed in 275 mL MeOH at 60.degree., stirred for 2 h, cooled to room temp., and filtered to give, after drying the wet crystals, 83.2 g (2E)-3-hydroxy-4-methoxycinnamaldehyde (98% purity) in 57% yield. The latter compd. (5.00 g) and 300 mg 5% Pd-Al2O3 were added to 80 mL MeOH and stirred under H atm. at 35.degree. for 24 h, followed

by filtration for removal of the catalyst and washing the catalyst with 10 mL

MeOH, to give a MeOH soln. of

3-(3-hydroxy-4-methoxyphenyl)propionaldehyde
(87% yield). The latter soln. (8.15 g) contg. 1.50 g of the aldehyde and
2.57 g aspartame were added to a 4:1 mixt. of MeOH and H2O, followed by
adding 0.7 g 10% Pd-C contg. 50% H2O, and the resulting mixt. was stirred
at 35.degree. under H atm. for 48 h to give 71% N-[N-[3-(3-hydroxy-4methoxyphenyl)propyl]-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L7 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2003 ACS
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TI Aspartame derivative crystals

AN 2001:489419 CAPLUS

DN 135:60486

TI Aspartame derivative crystals

IN Nagashima, Kazutaka; Aoki, Yuuichi; Ono, Eriko; Takemoto, Tadashi

PA Ajinomoto Co., Inc., Japan

SO PCT Int. Appl., 29 pp.

CODEN: PIXXD2 Patent.

DT Patent. LA Japanese

FAN.CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 2001047949 A1 20010705 WO 2000-JP9247 20001225

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,

LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,

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SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
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             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                           JP 1999-373257 A 19991228
                            20010709
                                           AU 2001-22259
                                                            20001225
     AU 2001022259
                       A5
                                           JP 1999-373257 A 19991228
                                           WO 2000-JP9247 W 20001225
                            20021002
                                           EP 2000-985895
                                                            20001225
     EP 1245573
                       A1
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                                           JP 1999-373257 A 19991228
                                           WO 2000-JP9247 W 20001225
     BR 2000016316
                       Α
                            20021203
                                           BR 2000-16316
                                                            20001225
                                           JP 1999-373257 A 19991228
                                           WO 2000-JP9247 W 20001225
                                           US 2002-183652
                                                            20020628
     US 2003009050
                       A1
                            20030109
                                           JP 1999-373257 A 19991228
                                           WO 2000-JP9247 A120001225
     Com. favorable crystals of N-[N-[3-(3-hydroxy-4-methoxyphenyl)propyl]-L-
AB
     .alpha.-aspartyl]-L-phenylalanine-Me ester (I) were given. Compared to
     amorphous aspartame, I have better stability, and higher purity and
     sweetness. Physicochem. characteristics of the I crystals were also
     given.
RE.CNT 9
              THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
     ANSWER 3 OF 11 CAPLUS COPYRIGHT 2003 ACS
L7
     Preparation of 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyric acid
ΤI
     derivative as novel intermediate for sweetener with high sweetness and
     process for producing the same
AN
     2001:396837 CAPLUS
DN
     135:5819
     Preparation of 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyric acid
TI
     derivative as novel intermediate for sweetener with high sweetness and
     process for producing the same
IN
     Kawahara, Shigeru; Mori, Kenichi; Nagashima, Kazutaka; Takemoto, Tadashi
PΑ
     Ajinomoto Co., Inc., Japan
     PCT Int. Appl., 26 pp.
SO
     CODEN: PIXXD2
DT
     Patent
     Japanese
LA
FAN.CNT 1
                                          APPLICATION NO. DATE
     PATENT NO.
                     KIND DATE
                                          -----
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                      _ _ _ _
                           -----
                                          WO 2000-JP7913 20001109
     WO 2001038297
                     A1
                            20010531
ΡI
            AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
             YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                           JP 1999-328100 A 19991118
                            20010604
                                           AU 2001-13052
     AU 2001013052
                      Α5
                                                            20001109
                                           JP 1999-328100 A 19991118
                                           WO 2000-JP7913 W 20001109
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EP 1236713 A1 20020904 EP 2000-974890 20001109 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, MC, IE, SI, LT, LV, FI, RO, MK, CY, AL

JP 1999-328100 A 19991118 WO 2000-JP7913 W 20001109

OS CASREACT 135:5819; MARPAT 135:5819

GΙ

AB The title compds. (I; R = sulfonyl-type protecting group) can be obtained by substituting the substituent at the 3-position of the benzene ring of

а

butyric acid deriv. which can be easily and efficiently produced by reacting a hydroxyl-protected 2-methoxyphenol (II; R = same as above), wherein the hydroxyl group of 2-methoxyphenol is protected in the form of a sulfonate, with 3-methylcrotonic acid in the presence of an acid. By further converting the carboxyl group into a formyl group, 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyraldehyde can be easily produced. This aldehyde deriv, can be easily derived into a compd.,

produced. This aldehyde deriv. can be easily derived into a compd., which

is excellent as a sweetener with a high sweetness, by reductive alkylation  ${\bf r}$ 

with aspartame. Thus, 104 g AlCl3 was added to a soln. of 240 g 2-methanesulfonyloxyanisole and 39 g 3-methylcrotonic acid, stirred at 70.degree. for 5 h and 100.degree. for 2 h, cooled to room temp., treated with 390 mL 6 N HCl, stirred vigorously for 3 h, and extd. with 300 mL CH2Cl2. The org. layer was extd. with 400 mL 2 N NaOH and the sepd. aq. layer was acidified with 6 N HCl, and extd. twice with 300 mL CH2Cl2.

The

org. layer was concd. under reduced pressure to give a residue contg. 3-(3-methanesulfonyloxy-4-methoxyphenyl)-3-methylbutanoic acid which was treated with 300 mL 6 N NaOH, stirred at 100.degree. for 4 h, cooled to room temp., acidified with 6 N HCl, and extd. with EtOAc to give, after evapn. of the solvent from the ext. and recrystn. from toluene, 37.9% 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutanoic acid (III). III (13.6 g), 22.8 g pivalic acid anhydride, and 100 mL acetone were enclosed in a high pressure hydrogenation app., purged by bubbling N for 30 min, treated

with

a soln. of 137 mg Pd(OAc)2 and 930 mg tri(p-tolyl)phosphine in 5 mL THF, and stirred at 80.degree. under 5 MPa hydrogen pressure to give, after evapn. of acetone and column chromatog., 80%

3-(3-hydroxy-4-methoxyphenyl)-

3-methylbutyraldehyde (IV). Aspartame (8.45 g) was added to a soln. of 6.68 g IV in 272 mL 80% aq. methanol and the resulting slurry was hydrogenated in the presence of 2.86 g 10% Pd-C (50% water content) at 25.degree. for 24 h, filtered, and the filtrated was treated with 190 mL water and extd. with 250 mL PhMe. The sepd. methanol-water layer was concd. under reduced pressure to .apprx.1/2 wt., cooled from 75.degree.

to

5.degree., and filtered to collect the pptd. crystals to give, after

crystn. from 50% aq. MeOH, 67.6% N-[N-[3-(3-hydroxy-4-methoxyphenyl)-3methylbutyl]-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester (98% purity), which is a sweetening agent with high sweetness (no data). THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 6 ALL CITATIONS AVAILABLE IN THE RE FORMAT ANSWER 4 OF 11 CAPLUS COPYRIGHT 2003 ACS L7Process for producing N-(3-methyl-3-phenylbutyl)aspartame derivative, TI crystals thereof, novel production of aldehyde intermediates therefor and process for producing the intermediate 2001:283984 CAPLUS AN 134:296101 DN Process for producing N-(3-methyl-3-phenylbutyl)aspartame derivative, TΙ crystals thereof, novel production of aldehyde intermediates therefor and process for producing the intermediate Kawahara, Shigeru; Nagashima, Kazutaka; Mori, Kenichi; Takemoto, Tadashi; IN Ono, Eriko Ajinomoto Co., Inc., Japan PA PCT Int. Appl., 50 pp. SO CODEN: PIXXD2 DT Patent Japanese LA FAN.CNT 1 KIND DATE APPLICATION NO. DATE PATENT NO. \_\_\_\_\_\_ ----20010419 WO 2000-JP6933 20001004 **A**1 PΙ WO 2001027142 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG JP 1999-288207 A 19991008 JP 1999-288208 A 19991008 JP 1999-294409 A 19991015 JP 1999-328099 A 19991118 AU 2000-75567 20001004 AU 2000075567 Α5 20010423 JP 1999-288207 A 19991008 JP 1999-288208 A 19991008 JP 1999-294409 A 19991015 JP 1999-328099 A 19991118 WO 2000-JP6933 W 20001004 EP 2000-964672 20001004 EP 1219633 A1 20020703 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL JP 1999-288207 A 19991008 JP 1999-288208 A 19991008 JP 1999-294409 A 19991015 JP 1999-328099 A 19991118 WO 2000-JP6933 W 20001004 BR 2000-14565 20021119 20001004 BR 2000014565 Α JP 1999-288207 A 19991008 JP 1999-288208 A 19991008 JP 1999-294409 A 19991015 JP 1999-328099 A 19991118 WO 2000-JP6933 W 20001004

20020919

A1

US 2002132032

US 2002-117205

20020408

JP 1999-288207 A 19991008 JP 1999-288208 A 19991008 JP 1999-294409 A 19991015 JP 1999-328099 A 19991118 WO 2000-JP6933 A120001004

OS CASREACT 134:296101; MARPAT 134:296101

GΙ

h.

and

$$R^{2}$$
 $R^{3}$ 
 $R^{4}$ 
 $R^{5}$ 
 $CO_{2}H$ 
 $O$ 
 $Ph$ 

$$R^{2}$$
 $R^{2}$ 
 $R^{3}$ 
 $R^{4}$ 
 $R^{5}$ 
 $R^{5}$ 
 $R^{1}$ 
 $R^{0}$ 
 $R^{1}$ 
 $R^{0}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{2}$ 
 $R^{3}$ 

The title compds. (I; R1-R5 = H, OH, C1-3 alkoxy, C1-3 alkyl, C2-3 AB hydroxyalkoxy; or R1 and R2 or R2 and R3 together represent methylenedioxy) are prepd. by reductive alkylation of aspartame with 3-methyl-3-phenylbutryaldehyde derivs. (II; R1-R5 = H, OH, C1-3 alkoxy, C1-3 alkyl, benzyloxy, C2-3 hydroxyalkoxy; or R1 and R2 or R2 and R3 together represent methylenedioxy). This process is industrially advantageous since these compds. are readily crystd. and sepd. in high purity from products contg. impurities. These compds. are useful as sweeteners having high degree of sweetness for food or beverages (no data). Thus, 3-(3-Hydroxy-4-methoxyphenyl)-3-methylbutyraldehyde (III) was prepd. by treatment of 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyric acid (IV) with pivalic anhydride in acetone for 30 min and hydrogenation in the presence of Pd(OAc)2 and tri(p-tolyl)phosphine under hydrogen pressure of 5 MPa at 80.degree. for 24. IV was obtained by reacting 2-bromoanisole with 3-methylcrotonic acid in the presence of AlCl3 at 70.degree. for 5 h and hydroxylation of the resulting 3-(3-bromo-4methoxyphenyl)-3-methylbutyric acid with NaOH in the presence of CuSO4.5H2O in distd. water at room temp. for 1 h and 160.degree. for 10

Ι

Aspartame and III were added to 80% aq. MeOH, stirred at 40.degree., hydrogenated over 10% Pd-C under hydrogen atm. at 25.degree. for 24 h,

filtered for removing the catalyst, followed by washing the catalyst with methanol, the combined filtrate was treated with waler, and extd. with toluene. The sepd. aq. methanol phase was concd. under reduced pressure to .apprx.1/2 wt., and cooled from 75.degree. to 5.degree. for crystn. The sepd. crystals were recrystd. from 50% aq. MeOH to give 67.6% N-[N-[3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl]-L-<a-aspartyl]-L-phenylalanine 1-Me ester as white crystals.

THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 33 ALL CITATIONS AVAILABLE IN THE RE FORMAT ANSWER 5 OF 11 CAPLUS COPYRIGHT 2003 ACS L7 Sweetener compositions with high degree of sweetness having improved TI sweetness, supplements and utilization thereof AN 2001:265445 CAPLUS 134:265559 DN Sweetener compositions with high degree of sweetness having improved ΤI sweetness, supplements and utilization thereof IN Ishii, Shoichi PΑ Ajinomoto Co., Inc., Japan PCT Int. Appl., 50 pp. SO CODEN: PIXXD2 DTPatent Japanese T.A FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE -----\_\_\_\_ WO 2000-JP6629 20000926 WO 2001025263 A1 20010412 PΙ W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG JP 1999-284344 A 19991005 JP 1999-284345 A 19991005 JP 2001103925 A2 20010417 JP 1999-284344 19991005 JP 2001103926 A2 20010417 JP 1999-284345 19991005 AU 2000073222 **A5** 20010510 AU 2000-73222 20000926 JP 1999-284344 A 19991005 JP 1999-284345 A 19991005 WO 2000-JP6629 W 20000926 20020717 EP 2000-961240 20000926 EP 1223175 A1 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL JP 1999-284344 A 19991005 JP 1999-284345 A 19991005 WO 2000-JP6629 W 20000926 BR 2000014492 BR 2000-14492 20000926 Δ 20020820 JP 1999-284344 A 19991005 JP 1999-284345 A 19991005 WO 2000-JP6629 W 20000926 A1 20030306 US 2002-115937 20020405 US 2003044502 JP 1999-284344 A 19991005 JP 1999-284345 A 19991005 WO 2000-JP6629 A120000926 OS MARPAT 134:265559 Sweetener compns. similar to sucrose are obtained by blending aspartyl AB dipeptide ester derivs. (I, Markush structure claimed) such as N-[N-[3-(3-hydroxy-4-methoxyphenyl)propyl]-L-.alpha.-aspartyl]-Lphenylalanine 1-Me ester with at least one compd. selected from the group comprising saccharides and sugar alcs., in the form of solns. These derivs. I are added to improve the taste of beverages.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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ANSWER 6 OF 11 CAPLUS COPYRIGHT 2003 ACS
L7
    Sweetener compositions with high degree of sweetness having improved
TI
     sweetness, supplements and utilization thereof
     2001:265444 CAPLUS
AN
     134:265558
DN
     Sweetener compositions with high degree of sweetness having improved
TI
     sweetness, supplements and utilization thereof
     Ishii, Shoichi
IN
    Ajinomoto Co., Inc., Japan
PΑ
     PCT Int. Appl., 86 pp.
SO
     CODEN: PIXXD2
DT
     Patent
    Japanese
LA
FAN.CNT 1
    PATENT NO.
                     KIND DATE
                                        APPLICATION NO. DATE
                     ____
                                          -----
PΙ
    WO 2001025262
                     A1
                           20010412
                                          WO 2000-JP6628 20000926
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            HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
            LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
             YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
            DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
             CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                          JP 1999-283505 A 19991004
                                          JP 1999-283506 A 19991004
                                          JP 1999-284346 A 19991005
    AU 2000073221
                      A5
                           20010510
                                          AU 2000-73221
                                                           20000926
                                          JP 1999-283505 A 19991004
                                          JP 1999-283506 A 19991004
                                          JP 1999-284346 A 19991005
                                          WO 2000-JP6628 W 20000926
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                                          EP 2000-961239
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                      A1
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO, MK, CY, AL
                                          JP 1999-283505 A 19991004
                                          JP 1999-283506 A 19991004
                                          JP 1999-284346 A 19991005
                                          WO 2000-JP6628 W 20000926
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                           20020820
                                          BR 2000-14454
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                                          JP 1999-283505 A 19991004
                                          JP 1999-283506 A 19991004
                                          JP 1999-284346 A 19991005
                                          WO 2000-JP6628 W 20000926
    MARPAT 134:265558
OS
    Sweetener compns. similar to sucrose are obtained by blending aspartyl
AB
    dipeptide ester derivs. (I, Markush structure claimed) such as
    N-[N-[3-(3-hydroxy-4-methoxyphenyl)propyl]-L-<a-aspartyl]-L-phenylalanine
    1-Me ester with at least one compd. selected from the group comprising
    aspartame, saccharides, sugar alcs. and oligosaccharides, so as to
enhance
    the taste of I. These derivs. I are added to improve the taste of
    beverages and pharmaceuticals.
             THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 6
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
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L7 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2003 ACS

```
Process for the production of aspartyldipeptide ester derivatives, novel
ΤI
     intermediates therefor and process for the production of the
intermediates
     2001:265443 CAPLUS
AN
DN
     134:281142
     Process for the production of aspartyldipeptide ester derivatives, novel
TI
     intermediates therefor and process for the production of the
intermediates
     Nagashima, Kazutaka; Aoki, Yuuichi; Takemoto, Tadashi; Amino, Yusuke;
     Funakoshi, Nao; Ono, Eriko
     Ajinomoto Co., Inc., Japan
PA
SO
     PCT Int. Appl., 39 pp.
     CODEN: PIXXD2
DТ
     Patent
LA
     Japanese
FAN.CNT 1
                     KIND DATE
                                          APPLICATION NO. DATE
     PATENT NO.
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                     A1
                           20010412
                                          WO 2000-JP6626 20000926
PΙ
     WO 2001025260
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             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
             YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
            DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
             CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                          JP 1999-287398 A 19991007
                                          JP 1999-371284 A 19991227
                           20010510
                                          AU 2000-73219
    AU 2000073219
                      A5
                                                           20000926
                                          JP 1999-287398 A 19991007
                                          JP 1999-371284 A 19991227
                                          WO 2000-JP6626 W 20000926
    EP 1231215
                      A1
                           20020814
                                          EP 2000-961237
                                                         20000926
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL
                                          JP 1999-287398 A 19991007
                                          JP 1999-371284 A 19991227
                                          WO 2000-JP6626 W 20000926
    US 2002133037
                      A1
                           20020919
                                          US 2002-117196
                                                           20020408
                                          JP 1999-287398 A 19991007
                                          JP 1999-371284 A 19991227
                                          WO 2000-JP6626 A120000926
    CASREACT 134:281142; MARPAT 134:281142
OS
GI
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$$R^{2}$$
 $R^{3}$ 
 $R^{4}$ 
 $R^{5}$ 
 $CO_{2}H$ 
 $NH$ 
 $N$ 
 $OMe$ 
 $OMe$ 
 $Ph$ 
 $I$ 

$$R^2$$
  $R^1$   $R^2$   $R^1$   $R^3$   $CH=CHCHO$   $R^3$   $R^4$   $R^5$   $R^5$   $R^1$ 

AB Industrial and efficient processes for producing aspartyldipeptide ester derivs. of general formula (I; R1-R5 = H, OH, C1-3 alkoxy, C1-3 alkyl, benzyloxy, C2-3 hydroxyalkyloxy; or R1 and R2 or R2 and R3 together represents methylenedioxy), which are expected to serve as sweetener (no data), comprise reductive alkylation of aspartame with propionaldehydes

cinnamaldehydes of general formulas (II) and (III) in the presence of a catalyst. Particularly, described are an industrial and efficient process

for producing N-[N-[3-(3-hydroxy-4-methoxyphenyl)propyl]-L-aspartyl]-L-phenylalanine 1-Me ester (IV) which is excellent as high sweetener; useful

and advantageous intermediates for the process; and efficient processes for producing the intermediates. Thus, 5.89 g aspartame and 3.42 g 3-(3-hydroxy-4-methoxyphenyl)propionaldehyde (prepn. given) were added to 200 mL 80% aq. methanol, stirred at 40.degree. for a while, and hydrogenated in the presence of 1.78 10% Pd-C at 0.1 M Pa and 40.degree. for 40 h to give 78.9% IV.

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L7 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2003 ACS
- TI Preparation of aspartyl dipeptides and their use as sweeteners
- AN 2001:252943 CAPLUS
- DN 134:266568
- TI Preparation of aspartyl dipeptides and their use as sweeteners
- IN Amino, Yusuke; Takemoto, Tadashi; Yuzawa, Kazuko; Nakamura, Ryoichiro
- PA Ajinomoto Co., Inc., Japan
- SO Jpn. Kokai Tokkyo Koho, 7 pp. CODEN: JKXXAF
- DT Patent
- LA Japanese
- EVN CNU 1

FAIN.	PATENT NO.	KIND I	DATE	APPLICATION NO.	DATE
ΡI	JP 2001097998	A2 2	20010410	JP 1999-281920	19991001
	WO 2001025261	A1 2	20010412	WO 2000-JP6627	20000926
	W: AE, AG,	AL, AM,	AT, AU, AZ,	BA, BB, BG, BR, BY	, BZ, CA, CH, CN,

CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG JP 1999-281920 A 19991001

MARPAT 134:266568 os

GI

Title dipeptides I (R1-R5 = H, OH; .gtoreq.2 of R1-R5 = OH; R6, R7 = H, AB C1-3 alkyl) or their salts are prepd. Thus, .beta.-O-benzyl-L-.alpha.aspartyl-L-phenylalanine Me ester was treated with 3-(2,4dibenzyloxyphenyl)-2-propenylaldehyde in the presence of NaB(OAc)3H in AcOH to give

Ι

N-[N-[3-(2,4-dibenzyloxyphenyl)-2-propenyl]-.beta.-O-benzyl-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester, which was hydrogenated over Pd/C to afford I (R1 = R3 = OH, R2 = R4 = R5-R7 = H). The product tasted 10,000 times sweeter than sucrose.

ANSWER 9 OF 11 CAPLUS COPYRIGHT 2003 ACS L7

N-Alkylaspartyldipeptide ester derivatives and sweeteners TI

2000:210206 CAPLUS AN

DN 132:236239

N-Alkylaspartyldipeptide ester derivatives and sweeteners TI

Amino, Yusuke; Yuzawa, Kazuko; Takemoto, Tadashi; Nakamura, Ryoichiro IN

Ajinomoto Co., Inc., Japan PA

SO PCT Int. Appl., 44 pp. CODEN: PIXXD2

DT Patent .

LA Japanese

0

FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE \_\_\_\_ WO 1999-JP4977 WO 2000017230 **A1** 20000330 19990910 PΙ W: AU, BR, BY, CA, CN, CZ, HU, IL, IN, JP, KR, MX, NO, NZ, PL, RO, RU, SK, TR, UA, US, VN, ZA RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG JP 1998-264252 A 19980918 JP 1999-169419 A 19990616 AΑ 20000330 CA 1999-2344314 19990910 CA 2344314 JP 1998-264252 A 19980918

JP 1999-169419 A 19990616

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WO 1999-JP4977 W 19990910
                            20000410
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                       Α1
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     AU 748136
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                                           JP 1999-169419 A 19990616
                                           WO 1999-JP4977 W 19990910
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                                           WO 1999-JP4977 W 19990910
     MARPAT 132:236239
OS
     N-alkylaspartyldipeptide ester derivs. such as N-[N-[3-(3-hydroxy-4-
AB
     methoxyphenyl)-3-methylbutyl]-L-.alpha.-aspartyl]-L-phenylalanine 1-Me
     ester, are useful as sweeteners. The sweeteners have low caloric values
     and more sweet than conventional ones.
RE.CNT 25
              THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
     ANSWER 10 OF 11 CAPLUS COPYRIGHT 2003 ACS
L7
TI
     Novel aspartyl dipeptide ester derivatives as sweeteners
AN
     2000:15228 CAPLUS
DN
     132:63481
     Novel aspartyl dipeptide ester derivatives as sweeteners
ΤI
     Amino, Yusuke; Yuzawa, Kazuko; Takemoto, Tadashi; Nakamura, Ryoichiro
IN
PA
     Ajinomoto Co., Inc., Japan
SO
     PCT Int. Appl., 28 pp.
     CODEN: PIXXD2
DT
     Patent
LA
     Japanese
FAN.CNT 1
     PATENT NO.
                     KIND DATE
                                          APPLICATION NO. DATE
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                          20000106
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             JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,
             MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
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             CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
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JP 1998-180204 A 19980626
                       AΑ
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     CA 2336133
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     AU 9940602
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     AU 752473
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                                           WO 1999-JP3050 W 19990607
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     RU 2192430
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                                           WO 1999-JP3050 W 19990607
     NO 2000006627
                                           NO 2000-6627
                       Α
                            20010212
                                                            20001222
                                           JP 1998-180204 A 19980626
                                           WO 1999-JP3050 W 19990607
     MARPAT 132:63481
     The Markush structure of the aspartyl dipeptide ester derivs. (including
     salts thereof) are given, and the example is N-[N-[3-(3-hydroxy-4-
     methoxyphenyl)propyl]-L-.alpha.-aspartyl]-L-(.alpha.-methyl)phenylalanine
     1-Me ester. These compds. are low-calorie sweeteners and are sweeter
than
     conventional ones.
             THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 16
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
     ANSWER 11 OF 11 CAPLUS COPYRIGHT 2003 ACS
     Preparation of aspartyl dipeptide ester derivatives as sweeteners
     1999:672857 CAPLUS
     131:272186
     Preparation of aspartyl dipeptide ester derivatives as sweeteners
     Amino, Yusuke; Yuzawa, Kazuko; Takemoto, Tadashi; Nakamura, Ryoichiro
     Ajinomoto Co., Inc., Japan
     PCT Int. Appl., 36 pp.
     CODEN: PIXXD2
     Patent
     Japanese
FAN.CNT 1
     PATENT NO.
                     KIND DATE
                                          APPLICATION NO. DATE
     ______
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     WO 9952937
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                                          WO 1999-JP1210
                     A1
                                                          19990311
        W: AU, BR, BY, CA, CN, CZ, HU, IL, IN, JP, KR, MX, NO, NZ, PL, RO,
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            PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD,
                                          JP 1998-97701 A 19980409
                                          JP 1999-38190 A 19990217
     CA 2327938
                      AΑ
                           19991021
                                          CA 1999-2327938 19990311
                                          JP 1998-97701 A 19980409
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JP 1999-38190 A 19990217

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	9941184 753110		19991101 20021010		WO 1999-JP1210 W 19990311 AU 1999-41184 19990311	
					JP 1998-97701 A 19980409 JP 1999-38190 A 19990217	
BR	9909542	A	20001226		WO 1999-JP1210 W 19990311 BR 1999-9542 19990311 JP 1998-97701 A 19980409	
EP					JP 1999-38190 A 19990217 WO 1999-JP1210 W 19990311 EP 1999-932431 19990311	
	R: AT, BE, IE, FI,		, DK, ES,	FR,	, GB, GR, IT, LI, LU, NL, SE, MC, PT, JP 1998-97701 A 19980409	,
					JP 1999-38190 A 19990217 WO 1999-JP1210 W 19990311	
RU	2179979	CI	20020227		RU 2000-200012801219990311 JP 1998-97701 A 19980409 JP 1999-38190 A 19990217	
NZ	507938	A	20021126		WO 1999-JP1210 W 19990311 NZ 1999-507938 19990311 JP 1998-97701 A 19980409	
	0000566	70	10001012		JP 1999-38190 A 19990217 WO 1999-JP1210 W 19990311 ZA 1999-2566 19990407	
ZA ·	9902566	А	19991012		JP 1998-97701 A 19980409	
NO	2000004979	A	20001107		NO 2000-4979 20001003 JP 1998-97701 A 19980409 JP 1999-38190 A 19990217 WO 1999-JP1210 W 19990311	

OS MARPAT 131:272186

AB Novel aspartyl dipeptide ester derivs. (including those in the form of a salt) having an excellent sweetening effect and usable as sweeteners such as N-[N-[3-(3-methyl-4-hydoxyphenyl)propyl]-L-.alpha.-aspartyl]-L-phenylalanine 1-Me ester and

N-[N-[3-(3-hydroxy-4-methoxyphenyl)propyl]-L-

.alpha.-aspartyl]-L-phenylalanine 1-Me ester (I) are prepd. Thus, I was prepd. from N-tert-butoxycarbonyl-.beta.-O-benzyl-.alpha.-L-aspartyl-L-phenylalanine Me ester and 3-benzyloxy-4-methoxycinnamaldehyde. I was 20,000-times sweeter than sucrose.

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> logoff hold		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	35.34	244.84
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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
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CA SUBSCRIBER PRICE	-7.16	-9.11

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STN INTERNATIONAL SESSION SUSPENDED AT 07:25:13 ON 14 MAR 2003

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1623paz

PASSWORD:

\* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \* \* \* SESSION RESUMED IN FILE 'CAPLUS' AT 07:39:28 ON 14 MAR 2003 FILE 'CAPLUS' ENTERED AT 07:39:28 ON 14 MAR 2003 COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

COST IN U.S. DOLLARS
SINCE FILE TOTAL
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35.34
244.84

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE TOTAL
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LOGOFF? (Y)/N/HOLD:y

COST IN U.S. DOLLARS
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FULL ESTIMATED COST
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244.84

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE TOTAL
ENTRY SESSION
CA SUBSCRIBER PRICE

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Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1623paz

STNLOGON timed out

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1623paz

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Web Page URLs for STN Seminar Schedule - N. America
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                 "Ask CAS" for self-help around the clock
NEWS 2 Apr 08
                 BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 3 Apr 09
         Apr 09
                 ZDB will be removed from STN
NEWS 4
                 US Patent Applications available in IFICDB, IFIPAT, and
         Apr 19
NEWS 5
IFIUDB
                 Records from IP.com available in CAPLUS, HCAPLUS, and
         Apr 22
NEWS 6
ZCAPLUS
                 BIOSIS Gene Names now available in TOXCENTER
         Apr 22
NEWS 7
         Apr 22
                 Federal Research in Progress (FEDRIP) now available
NEWS 8
NEWS 9
         Jun 03
                 New e-mail delivery for search results now available
NEWS 10 Jun 10
                 MEDLINE Reload
                 PCTFULL has been reloaded
NEWS 11
         Jun 10
                 FOREGE no longer contains STANDARDS file segment
NEWS 12
         Jul 02
NEWS 13
         Jul 22
                 USAN to be reloaded July 28, 2002;
                 saved answer sets no longer valid
NEWS 14
         Jul 29
                 Enhanced polymer searching in REGISTRY
                 NETFIRST to be removed from STN
NEWS 15
         Jul 30
NEWS 16
         Aug 08
                 CANCERLIT reload
                 PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 17
         Aug 08
NEWS 18
         Aug 08
                 NTIS has been reloaded and enhanced
                 Aquatic Toxicity Information Retrieval (AQUIRE)
NEWS 19
         Aug 19
                 now available on STN
                 IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 20
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                 The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 21
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NEWS 22
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NEWS 23
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NEWS 24
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                 CA Section Thesaurus available in CAPLUS and CA
NEWS 25
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                 CASREACT Enriched with Reactions from 1907 to 1985
NEWS 26 Oct 01
                 EVENTLINE has been reloaded
NEWS 27 Oct 21
NEWS 28 Oct 24 BEILSTEIN adds new search fields
NEWS 29 Oct 24 Nutraceuticals International (NUTRACEUT) now available on
STN
         Oct 25 MEDLINE SDI run of October 8, 2002
NEWS 30
NEWS 31 Nov 18 DKILIT has been renamed APOLLIT
NEWS 32 Nov 25 More calculated properties added to REGISTRY
NEWS 33 Dec 02 TIBKAT will be removed from STN
NEWS 34 Dec 04
                 CSA files on STN
                 PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 35 Dec 17
                 TOXCENTER enhanced with additional content
NEWS 36 Dec 17
NEWS 37
                 Adis Clinical Trials Insight now available on STN
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NEWS 38
                 ISMEC no longer available
         Dec 30
                 Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 39
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                 NUTRACEUT offering one free connect hour in February 2003
NEWS 40
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                 PHARMAML offering one free connect hour in February 2003
NEWS 41
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                 Simultaneous left and right truncation added to COMPENDEX,
NEWS 42
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                 ENERGY, INSPEC
                 CANCERLIT is no longer being updated
NEWS 43
         Feb 13
                 METADEX enhancements
NEWS 44
         Feb 24
                 PCTGEN now available on STN
NEWS 45
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NEWS 46
         Feb 24
                 TEMA now available on STN
                 NTIS now allows simultaneous left and right truncation
         Feb 26
NEWS 47
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                 PCTFULL now contains images
NEWS 48
                 SDI PACKAGE for monthly delivery of multifile SDI results
         Mar 04
NEWS 49
         Mar 19 APOLLIT offering free connect time in April 2003
NEWS 50
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NEWS EXPRESS January 6 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002

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SINCE FILE TOTAL ENTRY SESSION 0.21 0.21

FULL ESTIMATED COST

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FILE COVERS 1907 - 20 Mar 2003 VOL 138 ISS 12 FILE LAST UPDATED: 19 Mar 2003 (20030319/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> aspartame derivative

2806 ASPARTAME

6 ASPARTAMES

2806 ASPARTAME

(ASPARTAME OR ASPARTAMES)

40677 DERIVATIVE

299553 DERIVATIVES

338443 DERIVATIVE

(DERIVATIVE OR DERIVATIVES)

547977 DERIV 912754 DERIVS 1238782 DERIV (DERIV OR DERIVS) 1340774 DERIVATIVE (DERIVATIVE OR DERIV) 36 ASPARTAME DERIVATIVE L1(ASPARTAME (W) DERIVATIVE) => solubility 53300 SOLUBILITY 19345 SOLUBILITIES 65619 SOLUBILITY (SOLUBILITY OR SOLUBILITIES) 190561 SOLY 1 SOLIES 190561 SOLY (SOLY OR SOLIES) 207615 SOLUBILITY L2 (SOLUBILITY OR SOLY) => 11 and 12 2 L1 AND L2 => d 13 1-2 ti ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS 1.3 Novel aspartame derivative crystal and process for тT producing the same ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS 1.3 Novel aspartame derivative crystal and process for TIproducing the same => aspartame 2806 ASPARTAME 6 ASPARTAMES 2806 ASPARTAME L4(ASPARTAME OR ASPARTAMES) => 14 and 12 92 L4 AND L2 L5 => d 15 82-92 ti ANSWER 82 OF 92 CAPLUS COPYRIGHT 2003 ACS L5 The physicochemical properties of .alpha.-sweet TIANSWER 83 OF 92 CAPLUS COPYRIGHT 2003 ACS  $L_5$ Aspartame-mannitol resolidified fused mixture: characterization TI studies by differential scanning calorimetry, thermomicroscopy, photomicrography and x-ray diffractometry ANSWER 84 OF 92 CAPLUS COPYRIGHT 2003 ACS L5 Dipeptide sweetener-metal complexes ΤI ANSWER 85 OF 92 CAPLUS COPYRIGHT 2003 ACS L5 Artificial sweetener tablets ΤI

ANSWER 86 OF 92 CAPLUS COPYRIGHT 2003 ACS L5 ΤI Solubility improvement in dipeptide sweeteners ANSWER 87 OF 92 CAPLUS COPYRIGHT 2003 ACS L5 Aspartame administration to the infant monkey: hypothalamic TT morphology and plasma amino acid levels ANSWER 88 OF 92 CAPLUS COPYRIGHT 2003 ACS L5 Aspartame: a commercially feasible aspartic acid based ΤI sweetener L5 ANSWER 89 OF 92 CAPLUS COPYRIGHT 2003 ACS Concentrated liquid low calorie sweetener TI ANSWER 90 OF 92 CAPLUS COPYRIGHT 2003 ACS L5 ΤI Sweetener solution containing saccharin and aspartame 1.5 ANSWER 91 OF 92 CAPLUS COPYRIGHT 2003 ACS Easily dispersible, nonfoaming low-calorie sweetener тT ANSWER 92 OF 92 CAPLUS COPYRIGHT 2003 ACS L5 Cereal sweetening ΤI => logoff hold SINCE FILE TOTAL COST IN U.S. DOLLARS ENTRY SESSION FULL ESTIMATED COST 13.35 13.56 SESSION WILL BE HELD FOR 60 MINUTES STN INTERNATIONAL SESSION SUSPENDED AT 14:18:07 ON 20 MAR 2003 Connecting via Winsock to STN Welcome to STN International! Enter x:x LOGINID:ssspta1623paz PASSWORD: \* \* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \* SESSION RESUMED IN FILE 'CAPLUS' AT 14:38:46 ON 20 MAR 2003 FILE 'CAPLUS' ENTERED AT 14:38:46 ON 20 MAR 2003 COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS) SINCE FILE TOTAL COST IN U.S. DOLLARS ENTRY SESSION 13.77 13.98 FULL ESTIMATED COST => d his (FILE 'HOME' ENTERED AT 14:13:48 ON 20 MAR 2003) FILE 'CAPLUS' ENTERED AT 14:14:15 ON 20 MAR 2003 36 ASPARTAME DERIVATIVE L1 L2207615 SOLUBILITY L3 2 L1 AND L2 2806 ASPARTAME L4

L5 92 L4 AND L2

=> d 15 71-81 ti

- L5 ANSWER 71 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Manufacture of aspartame-containing beverages
- L5 ANSWER 72 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Preparation of type 1 aspartame crystals with improved dissolution properties
- L5 ANSWER 73 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Process for producing alpha-l-aspartyl-l-phenylalanine methyl ester having

an improved solubility

- L5 ANSWER 74 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Applications of aspartame in soft drinks
- L5 ANSWER 75 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Effect of sucrose, fructose and aspartame on fortificant iron solubility in a wheat flake cereal
- L5 ANSWER 76 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Incorporation of aspartame in sugar-containing food
- L5 ANSWER 77 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Readily soluble aspartame tablets
- L5 ANSWER 78 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Readily soluble aspartame sweeteners
- L5 ANSWER 79 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Artificially sweetened beverage mixes
- L5 ANSWER 80 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Enhanced-solubility aspartame compounds
- L5 ANSWER 81 OF 92 CAPLUS COPYRIGHT 2003 ACS
- TI Stable dipeptide sweetener crystals and tablets containing the crystals

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COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION

FULL ESTIMATED COST

17.53 17.74

SESSION WILL BE HELD FOR 60 MINUTES
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